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## ABSTRACT

Employing measures of attributional styles and metacognitive reading behaviors, a study investigated whether a relationship exists between passive reading behaviors and extreme attributional styles (learned helplessness) in college students on academic probation. Attributional style and metacognitive strategies exhibited while reading college text material were assessed for 75 probationary students of average reading ability. First, however, an attributional styles questionnaire and a metacognitive behavior scale had to be developed. Although findings revealed no statistically significant relationship between the two variables, they did show a tendency for subjects marked "low" on metacognitive reading behaviors to be rated "external" and "internal" in attributional styles at approximately 1.5 times the expected rate (i.e., to score in the top or bottom 10% on the attributional styles questionnaire). In addition, results indicated that subjects demonstrated significantly fewer metacognitive reading behaviors and exhibited more extremely external attributors than the regularly enrolled population.  
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The Relationship  
of Extreme Attributional Styles (Learned Helplessness)  
to Metacognitive Reading Behaviors  
of College Students  
on Academic Probation

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(Abstract)

The Relationship of Extreme Attributional Styles (Learned Helplessness) to Metacognitive Reading Behaviors of College Students on Academic Probation

Employing measures of attributional styles and of metacognitive reading behaviors, this investigation sought to determine if a relationship exists between passive reading behaviors and extreme attributional styles (learned helplessness) in college students on academic probation. Probationary students of average reading ability were assessed for attributional style, and for metacognitive strategies exhibited while reading college text material. Although the study revealed no statistically significant relationships between metacognitive reading scores and attributional styles, there was a tendency for subjects marked low on metacognitive reading behaviors to be rated "external" and "internal" in attributional styles at approximately 1.5 times the expected rate. In addition, probationary college students were found to demonstrate significantly fewer metacognitive reading behaviors than do other college students, and there appear to be more extremely external attributors in a probationary population than in a regularly enrolled population. Development of a measure of metacognitive reading behaviors is presented.

The link between low self concept and poor reading performance has been clearly made (Stipek and Weisz, 1981; Diener & Dweck, 1980; Hamilton, 1980). So too, has the link between poor reading performance and passive reading strategies (Johnston & Winograd, 1983; Butkowsky & Willows, 1980). More recently, researchers and theorists have attempted to refine these linkages by positing a link between reading abilities, and a generalized passivity in the face of failure which is described by Seligman and others as learned helplessness (Bristow, 1983; Weiner, 1979; Abramson, Seligman & Teasdale, 1978; Weiner, Frieze, Kukla, Reed, Rest & Rosenbaum, 1971).

Compelling evidence for the link between reading and learned helplessness has yet to appear, though a number of studies suggest a connection between passive reading and learned helplessness. For example, Butkowsky and Willows (1980) have reported that good and average readers tend to attribute their reading successes and failures to variable and often controllable factors like effort or the difficulty of reading tasks while poorer readers tend to attribute their reading successes and failures to uncontrollable external and internal factors like luck or to being a consistent failure. Attributions suggesting low control may be linked to passive and therefore poor reading behaviors. Johnston (1985) reports anxiety, maladaptive strategies, conflicting motives, and general helplessness of adult illiterates facing literacy tasks. Several studies of learned helplessness and its link to reading abilities are

compromised by a host of methodological problems including the novelty of experimental settings (Hiebert, Winograd, & Danner, 1984; Butkowsky & Willows, 1980; Frieze & Weiner, 1971), and the questionable ability of young children and adults with poor reading ability to have developed a stable style of attributing "internal" or "external" factors as cause of success or failure (Winograd, Witte, & Smith, 1986; Niquette & Winograd, 1985).

This study examines the relationship of extreme attributional styles associated with learned helplessness to active reading strategies classified by many researchers as "metacognitive". A group of 75 university level students of average reading ability but on academic probation were selected as subjects for the study following the rationale that:

- \* older subjects would be more likely to have established an attributional style (Niquette & Winograd, 1985)
- \* students on academic probation would be more likely than a more normal population to demonstrate evidences of extreme internally or externally attributed helplessness, and
- \* subjects of average reading ability would demonstrate stable attributional styles (Winograd, Witte & Smith, 1986)

#### Learned Helplessness

During the last two decades, psychological research by Seligman has examined the explanations and meanings attributed to events. Seligman's early work with laboratory animals established that animals placed in persistent uncontrollable situations learned to be helpless and simply stopped trying to achieve escape (1970, 1975). He later extended his work and theories to depressed human populations in an effort to determine

to what subjects attributed their depressions. Seligman developed the Attributional Styles Questionnaire (ASQ, 1984) to determine the degree to which subjects were a) stable or unstable, b) external or internal, and c) global or specific in their attributions for events. The rationale behind the measure, according to Abramson, Seligman, and Teasdale (1978), is that, in most cases, causes for success and failure are a mixture of internal and external forces (i.e. causes within a person versus in the environment), stable and unstable forces (i.e. causes due to recurrent factors or intermittent ones), and global versus specific forces (i.e. outcomes occurring across situations or outcomes being more specific to a particular situation). When asked to attribute causes for doing poorly on a job or in a social situation, most people vary their attributions and suggest that the situation may be different in the future. They are rated neutral on the ASQ. Subjects who, in Seligman's terms, have learned helplessness are much more stable and global or extreme in their attributions. For subjects exhibiting learned helplessness, the major cause for losing a job or failing a test tends to be either consistently external (i.e. bad luck or unfair superiors) or consistently internal (i.e. I'm a loser or I can't do anything).

#### Metacognition

The work of several researchers has established the link between active reading strategies and high reading performance (Paris & Meyers, 1981; Baker & Brown, 1980; Bransford, Stein, Shelton, & Owings, 1980; Flavell, 1976). The label of metacognition or metacognitive behaviors has been applied to a range of strategies associated with focusing, questioning, and elaborating

on material read (i.e. Brown, 1980). An examination of the literature reveals the strategies in Figure 1 are those most often agreed upon as metacognitive behaviors important to reading (i.e. Anderson, 1980; Brown & Smiley, 1978; Collins & Smith, 1980; Garner & Reis, 1981; Giesen & Peek, 1984; Johnston, 1984; Raphael & Pearson, 1982; Spiro, 1984).

(Insert Figure 1 here)

#### METHOD

##### Subjects:

Seventy-five reinstated (probationary) students from a large state university (24% freshmen, 59% sophomores, 16% juniors) were the subjects of this study. There were 40 males (53%) and 35 females (47%). Over 90% of the population was Caucasian with approximately 3% Asian and 2% Hispanic. (Black students on probationary status receive help from a program other than that from which the sample for the study was drawn.) On the reading comprehension section of the Scholastic Aptitude Test (SAT) test, the mean score for the group of subjects in this study was 460 with no student scoring below 400. The average national verbal SAT score in 1984 was 426, (Lipsack & Shell, 1986) and in this group the average score was 34 points higher than the national average. Therefore, there were no poor readers in this group. This is, in part, because an entrance requirement for Indiana University-Bloomington is that students must score in the top 50% on the SAT.

Comparison of subjects to a cross-section of 29 regularly admitted freshmen using the Kolmogrov-Smirnov Two Group Test (Siegel, 1956) revealed no significant differences on overall Attributional Styles Questionnaire (ASQ) responses when data were analyzed. Closer examination of the data, however, revealed that while both groups were fairly comparable in the categories of internal and neutral, there were larger differences in the external category. Only 6.9% of the freshmen cross-section sample consistently attributed the results of events to external sources, while 17.3% of the reinstated students consistently and globally made such attributions. (See data in Table 3 for more information.) The percentage of reinstated students in the external category was 2 1/2 times larger than that of the normal population.

When compared to regularly admitted freshmen and to graduate students enrolled in a Language Education doctoral seminar, the study subjects demonstrated less use of metacognitive reading behaviors such as prediction, writing notes, focusing, and questioning. Means for metacognitive behavior scores were: reinstated students, 8.4; regular freshman students, 10.6; doctoral students, 20.3.

#### Instruments:

The Attributional Styles Questionnaire (ASQ) measures individual differences in the use of attributional styles in which uncontrollable bad events are attributed to internal (versus external), stable (versus unstable), and global (versus specific) events according to Seligman's reformulated learned

helplessness model (Abramson, et. al., 1978). Cronbach's alpha coefficients (1951) of .75 and .72 were obtained for the composite attributional style scales for good and bad events, respectively, for 130 university freshmen (Peterson, Semmel, von Baeyer, Abramson, Metalsky & Seligman, 1981). Figure 2 illustrates an example of an extremely external attributing student's response to an item on the ASQ.

(Insert Figure 2 here)

For subjects to be selected as extreme external for this study, they had to score in the top 10% of each classification in attributing external causes in a stable, global fashion. Selection for extreme internal involved being among the top 10% in this category. All other subjects were selected as neutral. The authors judged that the most extreme 10% would clearly reflect internality and externality.

The second major instrument used in this study was the Metacognitive Behavior Scale (MBS). To develop this instrument, the authors first determined characteristics of metacognitive reading behavior through a review of the current literature of metacognition (presented in Figure I). During the same period, eight probational students not participating in this study were asked to read a sample of university-level sociology text for the purpose of taking a quiz on the material. They were then asked to write down what strategies they had used to prepare for the quiz. The retrospective introspections were followed by a structured interview to elicit additional comments and clarify written remarks. Categories of strategies were allowed to emerge

from the data collected in the written and oral interviews. A preliminary instrument was constructed based on the consensus of emerged categories and research reports. This Metacognitive Behavior Scale instrument consisted of a 5-page sociology text (Stark, 1985) with a readability level of 12.7 using the Fog Index (Gunning, 1952), followed by 8 open-ended questions about possible employed metacognitive strategies (i.e. prediction, writing on the text, focus, monitoring, questioning, use of prior experience, use of mental imagery, and arousal or reaction. For further information see Appendix I.) Scoring rules (See Appendix II) were developed and the instrument was piloted with 47 reinstated students. An inter-rater reliability of .80 was obtained between two scorers, and the metacognitive instrument as well as the scoring rules were edited again.

The instrument was next piloted with 19 freshmen. An inter-rater reliability of .85 was determined between two scorers and item correlations to total score were calculated. Item analysis revealed the monitoring item to have an extremely low correlation ( $r=.10$ ) to total score while all other items correlated significantly at the  $p<.05$  level ( $r=.37$  to  $r=.79$ ). Closer examination of subject responses on the monitoring item in structured oral interviews revealed that students were in fact monitoring their reading comprehension when they answered "no" to this question. The "no" response meant they were aware that they understood what they were reading. Therefore, this item was dropped from the data analysis with consideration given to the possibility that comprehension monitoring is incorporated into

other strategies such as focusing and questioning. (See Table 1 for correlational item analyses.)

(Insert Table 1 here)

In an attempt to check reliability and validity of this metacognitive instrument, 34 follow-up interviews were conducted 8 weeks after the first administration of the instrument. The MBS was readministered and followed by a structured oral interview which probed students to provide as many examples of strategies they had used to read the text as they could. Each interview was taped and then scored with the paper and pencil instrument scoring rules. Slightly more information about metacognitive behavior was elicited during the oral interview, but the quality of that information was not significantly different. A correlation of  $r = .94$  ( $p < .001$ ) was determined to exist between the written and oral subject responses on the MBS.

Other indicators of validity are that the instrument can discriminate between the reinstated and other populations. The reinstated students were presumed to be less capable readers at the onset of the study and their scores on the MBS are lower than those received by the random freshmen population. Also, "expert" readers, 12 graduate students in reading education, scored a mean double that of the freshmen ( $p < .001$ ). The piloting of this instrument is limited by the small numbers of students, but given this limitation, the instrument does demonstrate high test-retest reliability, does discriminate populations likely to have

different metacognitive abilities, does reflect the same information that extensive interviews reveal, and the scoring rules provide for reasonable interrater reliability.

(Insert Table 2 here)

### Procedure

Students in classroom settings were given the ASQ and the MBS as homework assignments. Examples of how to fill out the instruments were presented and cover pages with clear written instructions for completing the instruments were provided to students. No time limit was imposed for completion, though instruments were to be turned in during the week. In addition, students were notified the results would not be graded but that complete, honest responses were expected. Class instructors collected assignments during one-on-one student/teacher conferences scheduled as a regular feature of the course.

### Data Analysis:

Subjects were categorized as internal, neutral, or external according to the ASQ score. Those subjects scoring in the bottom 10% (below 0.10) and the top 10% (above 6.00) were categorized as extreme examples of internal and external attributors. To score at these extreme ranges, subjects needed to be both stable and global in their internality and externality. Subject scores which fell in the middle 80% range were considered neutral for the purposes of this study. (See Table 3 for ASQ score comparisons for reinstated and regularly enrolled students.) Subjects were

categorized as high, middle, or low on metacognitive behavior as measured by the MBS, using the cut-offs of low= 0-6, middle= 7-11, and high= 12-28. The percentages of probationary students scoring in these categories were 48% low, 28% middle, and 24% high.

The relationship between extreme attributional style (learned helplessness) and metacognitive reading behavior was analyzed using a contingency table and the Chi-Square statistic for a measure of significance.

(Insert Table 3 here)

### RESULTS

The hypothesis tested in this study was that there is a significant relationship between metacognitive reading behaviors and internal, neutral, and external attributional styles of college students on academic probation. The Chi-square analysis did not reveal significant differences in observed frequencies of high, middle, and low metacognitive performances across internal, neutral, and external attributional style cells. There was a slight tendency for both internal and external subjects to be overly ranked as low on the MBS (1.4 times expected frequency for internal and 1.5 times expected frequency for external), but this tendency was outweighed by close to expected frequencies in all other cells. We must conclude then, that there is no significantly demonstrated relationship between metacognitive

reading behaviors applied to college textbook reading and the attributional styles of college students on probation.

#### DISCUSSION

This study revealed no evidence for a significant relationship between attributional styles and metacognitive reading abilities among reinstated college students with average reading abilities. There was a greater than expected tendency for subjects categorized as internal or external on the ASQ to be marked as low on the MBS. This relationship was not statistically significant.

Though subject verbal scores on the SAT test were nearly average, the reinstated subjects did score significantly below both a cross-section of entering freshman students and doctoral students (8.4 vs. 10.6 and 20.3) on the MBS. The lower reinstated student scores and associated narrower standard deviation on the MBS severely limited the likelihood of finding a significant relationship between attributional styles and MBS scores.

Data gathered on the subject population and on other subjects during the process of developing the MBS revealed several interesting findings not directly related to the major hypothesis of this study. For example, MBS results indicate that reinstated students (even of fairly good measured reading ability) demonstrate significantly ( $p < .001$ ) fewer metacognitive reading behaviors than other students. In addition, though reinstated students do not significantly differ from entering freshmen in the overall spread of attributional styles, they are more than 2 1/2 times as likely to be rated as extreme "external"

than are entering freshmen. This finding tends to support an instructor observation which provided some impetus for this study: namely, that reinstated students tend to blame outside forces for their failures more often than do other students.

It is the opinion of these authors that the link between attributional styles (learned helplessness) and metacognitive reading behaviors among college students may be limited. Further, the incidence of extreme internal and external attributions is quite low in normal populations. Though the incidence of extreme external attribution is higher in reinstated populations, the percentage of reinstated students exhibiting such attributions is still relatively low. This suggests that if a link between extreme attributional style and metacognitive reading behaviors can be demonstrated, the link would be likely for only a small minority of college students. A stronger statement about a possible linkage could be made if the ASQ had been validated for this particular population, and, more importantly, if the validity of the MBS had been established with a larger number of students.

This study demonstrated no significant differences among subjects of differing attributional styles in ability to use metacognitive reading behaviors. Further case study research might, however, reveal differences in continued and regular practice of such behaviors on reading assignments from a variety of content areas during the full course of a semester. Such case studies would do well to focus upon students exhibiting extreme external attributions.

Figure 1

Summary of Literature Review of Characteristics of Metacognitive Behaviors

| <u>Characteristic</u>                 | <u>Definition</u>                                                                                                | <u>Sources</u>                                                                                                             |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| prediction                            | -determining purpose<br>-clarifying purpose<br>-guessing about content<br>-beginning of schema building          | Collins & Smith, 1980; Hammond, 1979; Shanahan, 1986; Smith, 1977                                                          |
| writing notes                         | -underlining<br>-deflating<br>-marginal notes<br>-marking                                                        | Anderson, 1980; Kulhavy, Dyer, & Silver, 1975; Pugh, 1985                                                                  |
| focus                                 | -distinguishing among major and minor points, content and trivia<br>-identifying important parts of text message | Brown & Smiley, 1978; Brown, Smiley, and Lawton, 1977; Danner, 1976; Elliot, 1980                                          |
| monitoring                            | -comprehension checking as one reads<br>-learner's awareness of comprehension failure                            | Divesta, Haywood, & Orlando, 1979; Garner, 1980; Garner & Reis, 1981                                                       |
| questioning                           | -questions asked due to lack of comprehension, understanding, or prior experience                                | Andre & Anderson, 1978-79; Durkin, 1981; Raphael & Pearson, 1982                                                           |
| use of prior experience (elaboration) | -integrating past experience with ideas from the text<br>-schema building                                        | Adams & Bruce, 1980; Chiesi, Spilich, & Voss, 1979; Langer & Nicolich, 1981; Johnston, 1984; Reder, 1980; Rummelhart, 1981 |
| mental imagery                        | -painting mental pictures by using text details, bits of prior experience                                        | Giesen & Peek, 1984; Sadowski, 1983; Steingart & Glock, 1979                                                               |
| reaction and arousal                  | -boredom<br>-evaluation<br>-attitude<br>-motivation                                                              | Brown & Smiley, 1978; Smith & Barrett, 1979; Spiro, 1984                                                                   |

## Figure 2

### Item Example from the Attributional Styles Questionnaire

YOU GO OUT ON A DATE AND IT GOES BADLY.

41) Write down the one major cause.

42) Is the cause of the date going badly due to something about you or something about other people or circumstances?

| Totally due<br>to other people 1<br>or circumstances | 2 | 3 | 4 | 5 | 6 | 7 | Totally due<br>to me |
|------------------------------------------------------|---|---|---|---|---|---|----------------------|
|                                                      |   |   |   |   |   |   |                      |

43) In the future when dating, will this cause again be present?

| Will never<br>again be<br>present | 1 | 2 | 3 | 4 | 5 | 6 | 7 Will always<br>be present |
|-----------------------------------|---|---|---|---|---|---|-----------------------------|
|-----------------------------------|---|---|---|---|---|---|-----------------------------|

44) Is the cause something that just influences dating or does it also influence other areas in your life?

| Influences just<br>this particular<br>situation | 1 | 2 | 3 | 4 | 5 | 6 | Influences all<br>7 situations<br>in my life |
|-------------------------------------------------|---|---|---|---|---|---|----------------------------------------------|
|-------------------------------------------------|---|---|---|---|---|---|----------------------------------------------|

Table 1

Correlation of Total Metacognitive Score with Individual Test Items

(N=19)

| <u>Characteristic</u> | <u>Total Metacognitive Score</u> |
|-----------------------|----------------------------------|
| Prediction            | .79*                             |
| Writing notes         | .64*                             |
| Focus                 | .43*                             |
| Monitoring            | .10                              |
| Questioning           | .40*                             |
| Prior experience      | .63*                             |
| Mental Imagery        | .48*                             |
| Arousal               | .67*                             |
| Total                 | 1.00                             |

(\*  $p < .05$ )

Table 2

Mean Scores, Standard Deviations, and Ranges on the Metacognitive Behavior Scales for Three Populations

|            | Reinstated | Cross-section<br>Freshmen | Graduates |
|------------|------------|---------------------------|-----------|
| N          | 75         | 19                        | 12        |
| Mean score | 8.40       | 10.60                     | 20.30     |
| S.D.       | 5.45       | 6.96                      | 7.91      |
| Range      | (1-24)     | (1-24)                    | (13-36)   |

\*Note: Each group is significantly different at the  $p < .05$  level.

Table 3

Attributional Styles Questionnaire Scores

|                                      | Regularly<br>enrolled<br>students | Reinstated<br>students |
|--------------------------------------|-----------------------------------|------------------------|
| Internal<br>(ASQ= 0.10<br>and below) | 3 (10.3%)                         | 6 (8.0%)               |
| Neutral<br>(ASQ= 0.1<br>to 5.9)      | 24 (82.8%)                        | 56 (74.7%)             |
| External<br>(ASQ= 6.0<br>and above)  | 2 (6.9%)                          | 13 (17.3%)             |
|                                      | -----<br>N= 29                    | -----<br>N= 75         |

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